

BETHANIZED

FENCE



BETHLEHEM STEEL COMPANY
GENERAL OFFICES: BETHLEHEM, PA.

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Bethlehem Steel Company

BETHANIZED FENCE



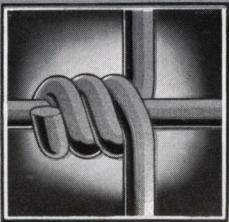
**EMBODIES THE GREATEST IMPROVE-
MENT IN FENCE PROTECTION SINCE
GALVANIZING WAS FIRST INTRODUCED.**



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BETHANIZED FENCE

ARMORED AGAINST WEATHER BY A NEW ZINC-COATING PROCESS

THE introduction of Bethanized Fence marks the most far-reaching improvement in farm fence since galvanizing was introduced.

It is armored against the weather by a new kind of zinc coating. Hitherto zinc-coating of wire was done by the hot-dip

method, in which the wire was passed through a bath of molten zinc. In Bethanizing, an entirely new way of applying zinc to wire is utilized. The zinc is applied by a perfected electrolytic process. The result is a zinc coating of an altogether new kind with numerous vastly superior qualities.

A HEAVIER, MORE UNIFORM COATING

The Bethanized coating is heavier in weight and is more uniform than coatings

applied to farm fence by older processes. It has no thin places to give out relatively soon.

NO LOSS OF PROTECTION AT THE JOINTS

Bethanizing applies a coating so highly ductile and so tightly adherent to the wire that it withstands the severest bending without injury. It does not flake, peel off

nor even develop a powdery, roughened surface condition at the stay-wire wraps, as do less securely bonded, more brittle coatings applied by older galvanizing processes.

99.99% PURE—BRIGHTER, MORE LUSTROUS

The Bethanized coating has the very greatly increased resistance to weathering of zinc of high purity. It is actually 99.99 per cent pure. It is free of iron contamination—pure zinc all the way to the wire. In fact

it is the purest zinc coating ever produced.

This coating is brighter, more lustrous and stays bright longer than coatings applied by older methods. Its superior appearance alone attracts attention—wins sales.

NO EXTRA CHARGE FOR THIS SUPER FENCE

This new, heavier coating, far superior in every respect to zinc coatings applied by older processes, effectively armors Bethanized Fence against the attacks of the weather, giving it far longer life. It sets en-

tirely new standards in fence value. Yet Bethanized Fence in the heavy, long-lasting, standard-weight Bethanized coating costs no more than fence coated by older processes providing much less effective protection.



HOW BETHANIZING WAS DEVELOPED

LONG before Bethlehem Steel Company's first Bethanizing unit was put into commercial operation, late in 1932, exhaustive tests had clearly revealed this new electrolytic method of applying zinc to wire as a major advancement.

The Bethanized coating was shown by the spectroscope to be the purest zinc coating ever produced commercially. It was, in addition, more uniform, tougher, more ductile, and more tightly bonded to the steel base than had ever been possible with the hot-dip galvanizing process, and could be applied in much greater thicknesses. It was evident that if Bethanized Wire were woven into fence, this superior coating would mean the greatest advance in many years in increased fence value and longer life.

But it was decided to defer this major application until operating practice was perfected and equipment developed that would be capable of production on the very large scale that would be required. In fact, even before Bethanized Wire itself was

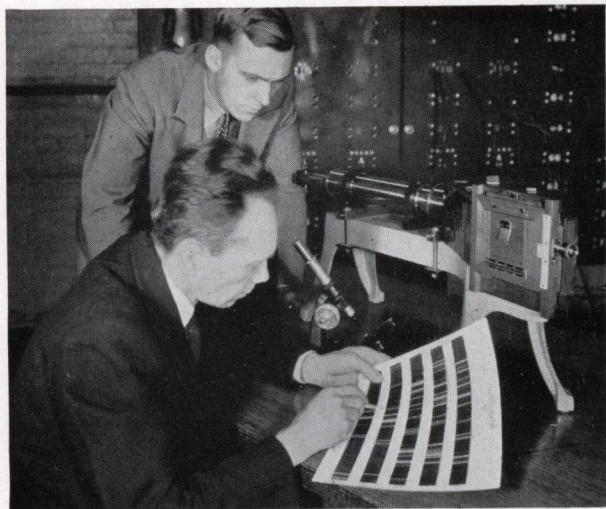
placed on the market, the first Bethanizing unit was operated virtually as a laboratory, for more than a year.

So marked was the success of the Bethanized coating in overcoming limitations formerly considered inherent in zinc-coated wire that, immediately Bethanized Wire became available, manufacturers at once adopted it for a wide variety of uses.

It is now used as telephone wire. It is used for fence in locations requiring extra protection against corrosion, as along railroad rights-of-way. It is widely used for chain-link fence, for fencing playgrounds, parks and manufacturing premises. It is being used for furniture and cushion springs where previously it had not been practicable to employ any but a light-coated wire.

But the application of Bethanized Wire has by no means been limited to the accepted uses of zinc-coated wire. The greater thickness of zinc that could be applied, offering increased protection against corrosion, together with the greater tightness, toughness and ductility of the Bethanized coating, has led to the application of this product to tasks in which the use of zinc-coated wire had never before been attempted, or even considered.

The wide range of applications in which Bethanized Wire is now serving successfully, of which the foregoing are only a few examples, make clear that it is definitely past the experimental stage. Now, with Bethanizing units that have long been in successful operation supplemented by new units of greater capacity, Bethlehem Steel Company makes available to dealers and to farmers a farm fence that embodies the advantages of this new method of zinc-coating wire—Bethanized Fence.



The spectroscope showed the Bethanized coating to be the purest zinc coating ever produced

THE GREATER VALUES IN BETHANIZED FENCE

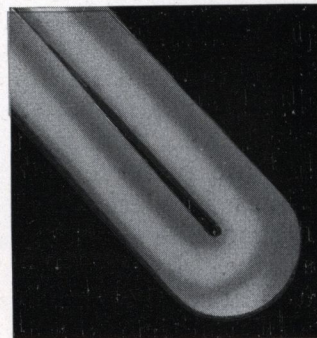
HEAVIER, TIGHTER AND TOUGHER COATING

THE weight of the zinc coating on woven fence can mean much or it can mean little in the protection afforded. Heretofore when attempts to heavily coat woven fence have been made, any advantages that resulted were secured only at a sacrifice in the dependability of the coating.

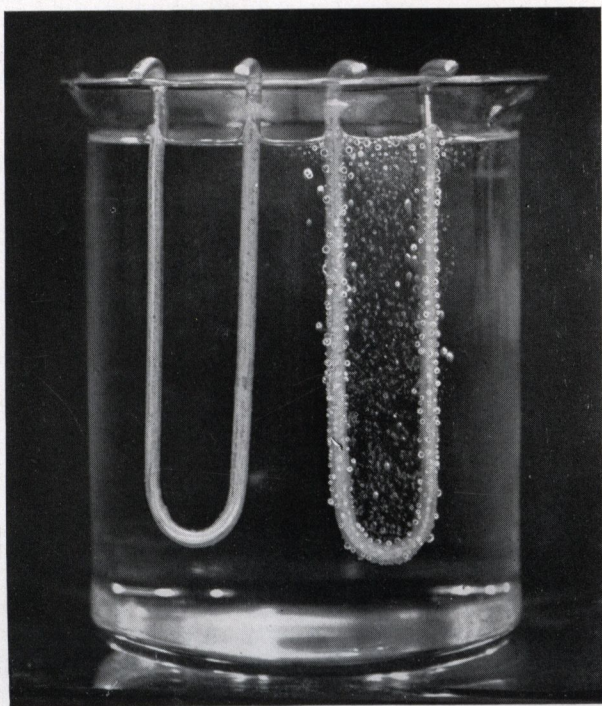
Its high purity, the absence of the embrittling iron contamination, unavoidable in older processes of galvanizing, gives the Bethanized coating remarkable ductility. While the zinc coating on galvanized wire made by older processes, if of heavy weight, is easily injured by bending in the weaving process of fence manufacture, tests reveal that the heavy Bethanized coating is in no way injured by fabricating—is 100 per cent

efficient at the joints. It takes the bending at the joints, or stay wire wraps without the slightest evidence, either of peeling or any powdering away of zinc, that often seriously impairs protection at this point, and causes much fence to rust out at the wraps. The fact is, the Bethanized coating is so tough and so ductile that the wire can be bent back flat on itself without injury to it.

The tight, ductile Bethanized coating stands this severe test without injury



99.99 PER CENT PURE ZINC



Note the freedom from attack by acid of the Bethanized wire (left), as indicated by the absence of bubbles rising from it. This is due to the high purity of the Bethanized coating.

Its high purity is another feature of the Bethanized coating; for the durability of zinc when exposed to the weather depends to a great extent upon the purity. The most destructive elements in the atmosphere are sulphur gases—present even in remote rural districts. These gases form acids that attack the zinc when impurities are present, but to which pure zinc is immune. This means that the purer the zinc the longer it will last.

Bethanizing applies to wire 99.99 per cent pure zinc. Bethanized Fence is the only fence on the market on which the entire coating is of pure zinc all the way to the wire. It has the purest zinc coating ever commercially produced, and the most resistant to exposure.

In the accompanying illustration a specimen of Bethanized Wire (left) is immersed, together with a specimen of hot-dip galvanized wire (right), in the same beaker, containing a solution of sulphuric acid. While the solution is far stronger in its action than the acids present in the atmos-

THE GREATER VALUES IN BETHANIZED FENCE

where, the high immunity of the Bethanized specimen to attack is plainly indicated by the absence of bubbles rising from it. The cloud of bubbles coming from the hot-dip coating, on the other hand, shows that this less pure coating is readily attacked.

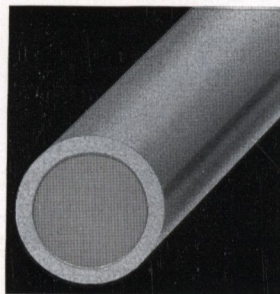
As it is acids of similar nature derived from sulphur gases, that are among the most active agents in undermining zinc coatings exposed to the atmosphere, this test is considered an excellent index of resistance to the weather.

COATING OF UNIFORM WEIGHT AND ATTRACTIVE APPEARANCE

Another property of the Bethanized coating that has an important and direct bearing on fence life is its uniform thickness. Rust first attacks fence where the zinc is thinnest. The thin spots are the measure of the life of fence. But there are no thin places in Bethanized Fence because the Bethanizing process applies the coating evenly. It is the most uniform heavy-weight coating that has ever been produced.

In addition, the Bethanized coating is smoother, brighter, and more lustrous than coatings applied by older methods, giving Bethanized Fence a bright, attractive appearance that favorably impresses the customer.

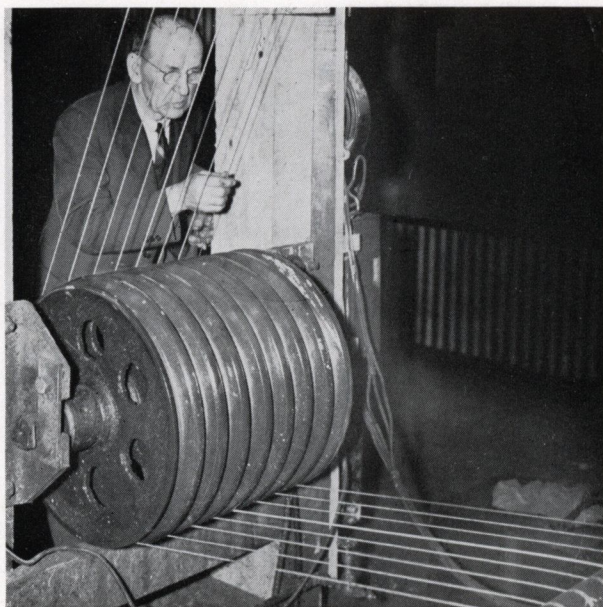
These features of Bethanized Fence establish it as a product ahead of anything else



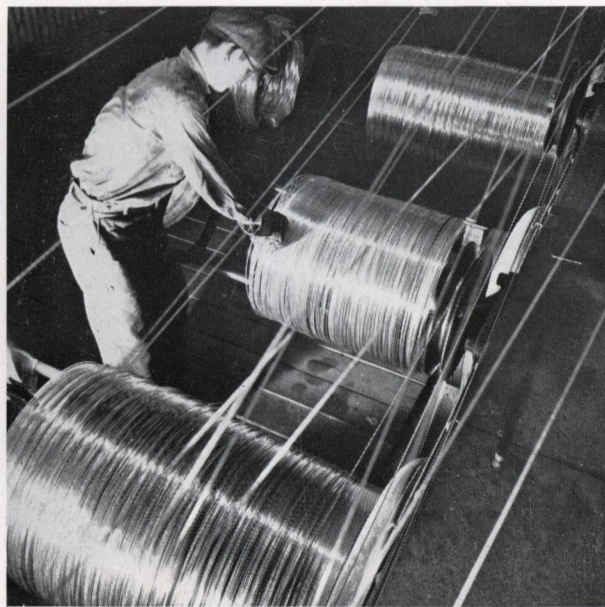
A heavy-weight coating of great uniformity

in its field. To the dealer they are keys to increased sales. With this super-fence available at usual fence prices, the dealer who handles it has a decided advantage over competition from the business-getting standpoint.

And this is a lasting advantage, because the great durability of Bethanized Fence—more evident after a few years of service than when the fence is new—will clinch old customers and win new ones.



This is finished wire on its way to the coiling reels



Finished Bethanized Wire, coiled and ready for weaving into fence

STEP BY STEP THROUGH THE BETHANIZING PROCESS

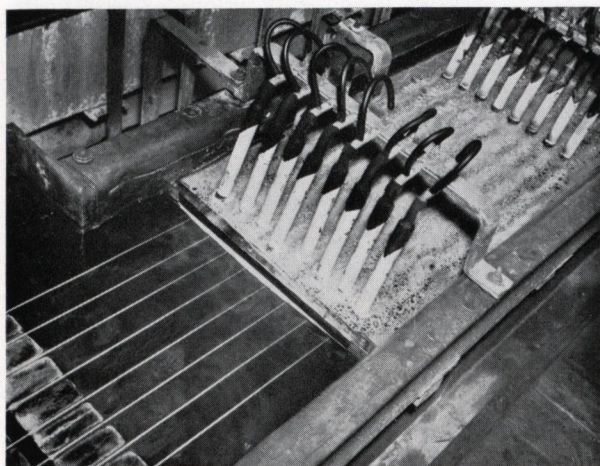
THE beginning of a Bethanized coating is a form of zinc calcine, a reddish brown earth-like substance obtained by roasting one of the richer zinc ores. The roasted ore contains the equivalent of about 65 per cent metallic zinc, mostly in the form of zinc oxide. But the zinc does not appear in metallic form until it is deposited by electrolysis on the wire as the silvery, highly pure Bethanized coating. This is accomplished in a long electric cell through which the wire passes. The earliest Bethanizing cell was 55 ft. in length. In more recently installed units the cell-length is 110 ft.

At one end of this long electric cell where the Bethanizing takes place are reels of bare wire, as shown on page 8. These are placed in pairs so that as soon as one reel is about to become empty the end of the remaining wire can be quickly joined by electric welding to the end of the wire in the other full reel. For Bethanizing is a continuous operation and is never interrupted except for periodic overhauling or repairs.

At the other end of this long cell on a raised platform are a series of large wooden



The Bethanized coating has its beginning in a reddish brown earth-like zinc ore concentrate called zinc calcine, which is introduced by belt conveyor into a sulphuric acid solution



This close-up view of the cell shows the wire as it travels through the clear purplish-colored Bethanizing solution

tanks, lead lined to protect against the acid that is used, together with pumping machinery and giant filters. This is the equipment that is employed to reclaim the zinc from the roasted ore in a form suited to the Bethanizing process. But, as stated, it is not reclaimed in metallic form for this purpose. After careful weighing, the roasted ore is fed, by conveyor belt, a scoopful at a time, into one of the large tanks that contain sulphuric acid. Here its zinc content is dissolved as zinc sulphate. This zinc sulphate, which is kept continuously in solution as it undergoes various purifying operations, supplies the metallic zinc for the Bethanizing cell.

As the zinc-laden solution is pumped from the last of the purifying tanks into the pipe line that carries it into the Bethanizing cell it looks like crystal clear spring water. But, then, as this crystal fluid heavily laden with highly pure zinc sulphate enters the Bethanizing cell, it takes on a purplish hue. This is due to the formation in the cell of permanganic acid from the manganese that the solution contains. The manganese is one of the purifiers employed.

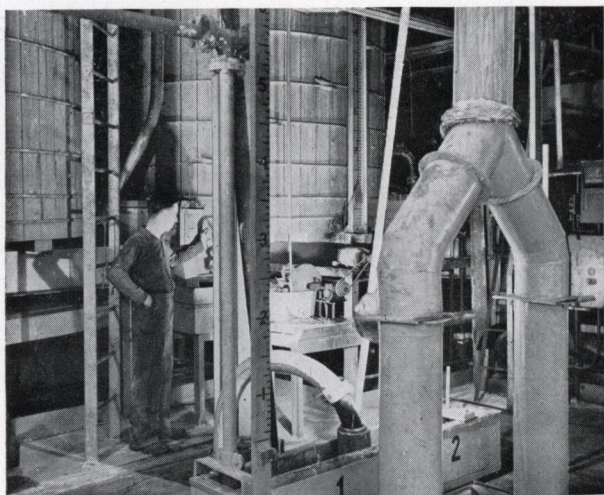
Included in the impurities that are com-

THE BETHANIZING PROCESS

monly associated with zinc, as it is found in nature, are minute quantities of other metals, among them usually copper, cobalt, nickel, cadmium, antimony and lead.

Most of these impurities are removed in the purifying process just described. But the final purifying takes place in the Bethanizing cell. For in the plating action that takes place here, it is only the pure zinc that is carried to the wire. In the Bethanizing process the zinc is applied in a molecular state. It is carried one molecule after another out of the solution entirely surrounding the wire and literally "shot" into the steel surface (or zinc surface as it develops) by atomic deposition. If any other metals are present, even in minute quantities, they remain in solution.

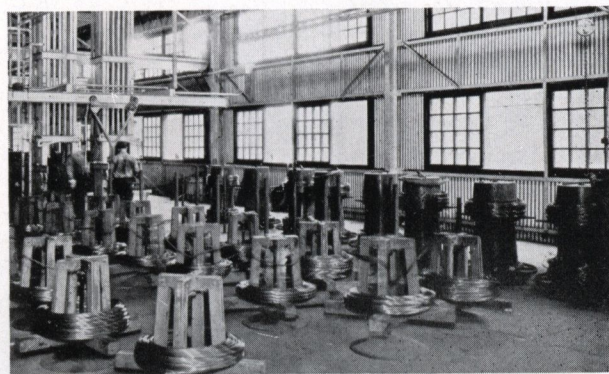
It is the absence of these other metals, in so high a degree that their presence in a Bethanized coating can only be detected in fractions of a hundredth of one per cent by means of the spectroscope, that constitutes one of the most significant features of the whole Bethanizing process. For in zinc coatings of ordinary purity, it is the presence of these other metals, or of particles of iron that the molten zinc absorbs from the wire or the galvanizing pot in older



The zinc contained in the zinc ore concentrate is converted by the sulphuric acid into one of the soluble zinc salts, zinc sulphate, and is purified as it passes through a series of great tanks and filters before entering the Bethanizing cell



As one reel is about to become empty the end of the remaining wire is quickly joined by electric welding to the end of the wire in the other, full reel



The bare wire enters the Bethanizing cell from reels that are arranged in pairs

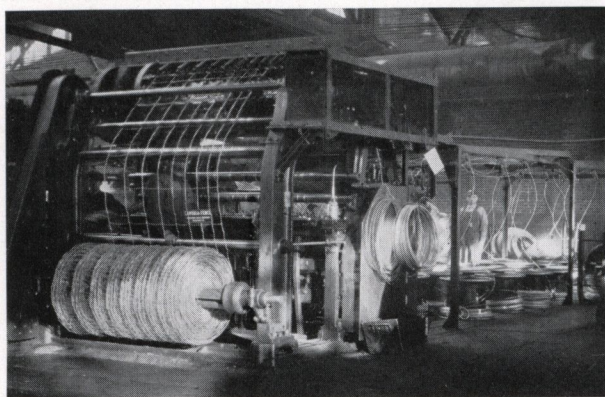
processes, that accelerates decomposition of the coating when it is exposed to the weather. These impurities in galvanizing of ordinary purity make it more susceptible to attack by the acids formed by sulphur gases—present in the atmosphere in some degree even in remote rural districts.

As finally deposited on the wire the Bethanized coating is never less than 99.99 per cent pure. The spectroscope shows it to be the purest zinc coating ever commercially produced.

THE BETHANIZING PROCESS

The bare wire passes from the reels through an annealing and cleaning unit of fused sodium salts where any oxide or scale is reduced to highly pure metallic iron. Simultaneously any dirt or grease or foreign matter present on the surface of the wire is removed. From here the wire continues on through an acid cell which gives it the final cleaning before entering the Bethanizing cell. In the smaller units eight wires are run through each Bethanizing cell simultaneously. The larger cells have a capacity of twelve wires.

The wire is supported on glass rods as it travels through the purplish Bethanizing solution. The current employed is of very high amperage—about 15,000 amperes—and has a density ranging from 400 to a possible 700 amperes per square foot of plating surface, yet the voltage is only about 4 volts per cell. The current passes to the wire from silver-lead anodes, and is taken off by sliding contacts placed every three feet. The silver-lead alloy of which the anodes are made contains one per cent of silver. This small silver content greatly increases the resistance of the lead to attack from the acid contained in the solution.



On this ingenious machine the coated wire is woven into Bethanized Fence

As the wire moves along in the cell the zinc in the solution is electrolytically deposited on it. The weight of coating, which can be two or even three or more times heavier than an ordinary zinc coating, is determined by the speed of the wire. As this is a factor that can be accurately controlled, coating weights can also be controlled with great precision. And since the wire moves at constant speed, there is no variation in coating weight, as so often occurs in other processes.



Bethanized Wire is used not only for fence but a host of other purposes. Here coils of the finished wire are being prepared for shipment, to serve a wide range of responsible tasks

HINTS ON SELLING BETHANIZED FENCE

A FARM that is well fenced readily lends itself to the well diversified type of farming that year in, year out, brings in the steadiest, best balanced flow of returns. And, generally speaking, it's the best fenced farms that are the best managed farms. Good fences tell a story to neighbors and to every passer-by of wide-awake,

up-to-date farm management. They add to farm value.

Bethanized Fence not only gives better service but lasts longer. It is a fence that excels fence coated by older methods in its attractive appearance. It is the best looking fence a farmer can erect, retaining its silvery luster after lighter weight, less pure galvanizing takes on a grayish black color and rust begins to appear.

This more attractive appearance provides Bethanized Fence dealers with an effective sales approach. Placed out front where customers can see it, a silvery, lustrous roll of Bethanized Fence makes its own insistent bid for attention. And for the dealer who has a display window at his command Bethanized Fence can be utilized as a display item of compelling interest. This is interest that the dealer needs only to develop further by presentation of the strong selling points of better protection against the weather and consequent longer life, to create Bethanized Fence sales.

The Bethanized coating is so attractive, and affords such complete fence protection that it is well for the dealer to invite the customer's closer inspection, and to suggest that he compare its quality with any other fencing available.

It's the way that Bethanized Fence holds its own when examined critically that makes it its own best salesman. It has value that doesn't need to be emphasized; that needs only to be seen to be appreciated. Indeed, its greater value is so self-evident that Bethanized Fence may confidently be recommended as the best protected fence that has ever been offered for general farm use.

The customer's attention may be called to the full, even wraps at the stay wires; the full-gauge, full-copper-content wire that is used in both stay wires and line wires



Placed out front where customers can see it, a silvery, lustrous roll of Bethanized Fence makes its own insistent bid for attention

HINTS ON SELLING

may also be emphasized. The line wires in Bethanized Fence are of a sufficient degree of stiffness so that the tension curves don't pull out, but keep their springiness, and keep the fence tight through seasonal changes of temperature, year after year, with seldom any need to restretch it.

Dealers are invited to write to the Bethlehem Steel Company, Bethlehem, Pa., or to the nearest Bethlehem district sales office, for particulars as to prices and agency arrangements.

A wide selection of sales literature, including catalogs, envelope stuffers and other mailing pieces, is freely available to

our dealers for distribution to fence users. And the dealer is further supported by extensive, large-space consumer advertising in leading farm papers, as well as by exhibits and motion pictures at public gatherings and conventions.

Dealers are finding it profitable to feature this new, finer appearing, longer lasting fence in local newspaper advertising. For this purpose, electroplated advertisements and cuts suitable for newspaper reproduction are freely provided.

Whenever conditions permit we also endeavor to give the fullest cooperation in all types of special sales promoting events.



TESTS FOR COATING WEIGHTS

UNTIL recently the Preece test, also known as the dip or immersion test, has been generally recognized and used to test the value of zinc coatings. This test, while useful under certain conditions as a means of determining coating uniformity, has recently been proved undependable and is now discredited as a method of determining coating weight.

It has been found that zinc coatings contaminated with iron, unavoidable in any of the hot-dip processes of galvanizing, give Preece test indications of several times more zinc than is actually present. The misleading results frequently given by the Preece test and the fact that it gives no reliable information as to the service value of the zinc coating, under atmospheric exposure (because there are no corroding influences in the atmosphere which are identical or even closely related to the copper sulphate solution used in the Preece test)

have caused engineers to adopt more reliable means for evaluating zinc coatings.

One of the most reliable tests for determining coating weights is known as the stripping test. In this test a solution of hydrochloric acid and antimony chloride is employed, as described in the Standard Method of Determining the Weight of Zinc Coatings, adopted by the American Society for Testing Materials, Serial Designation A-90. This method gives the actual amount of zinc present on the surface of the wire in ounces per square foot.

Since the real measure of the life of a zinc coating is determined by the actual amount of zinc in ounces per square foot of wire surface and its purity, this test is manifestly more accurate as an index to the actual amount of zinc protection available, and hence to the life of fence exposed to the weather.

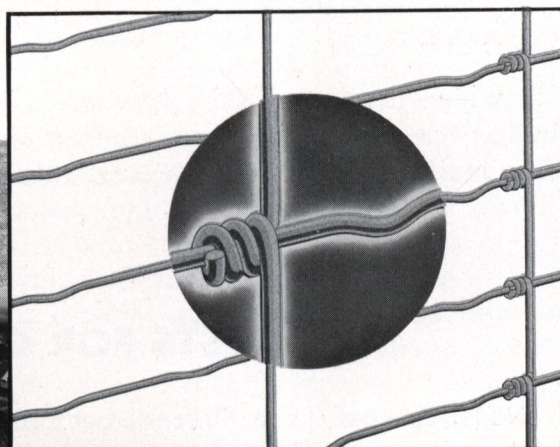
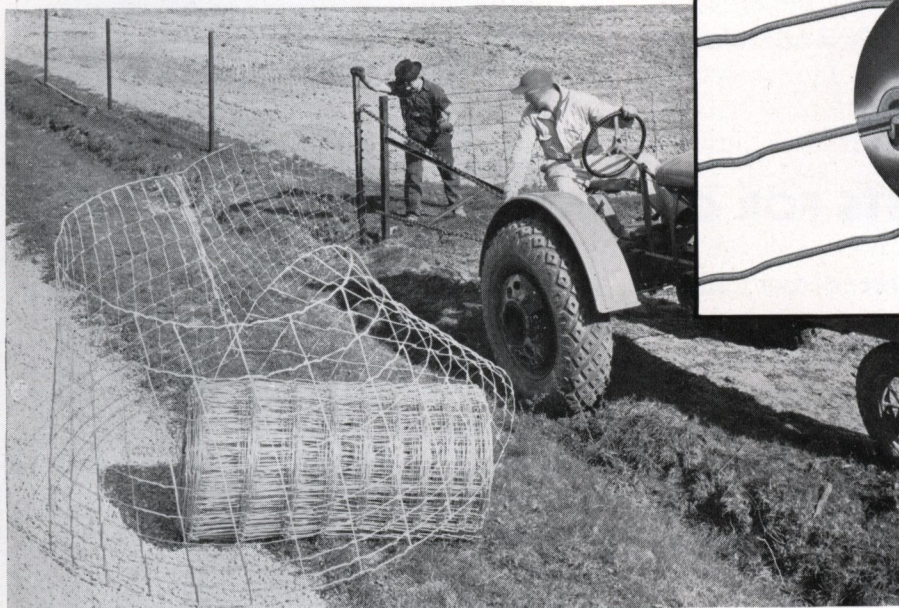
BETHANIZED FENCE CONSTRUCTION

THE extra value in Bethanized Fence goes even deeper than the Bethanized coating. Underlying its improved zinc coating Bethanized Fence has all the basic fence value that users have for years associated with Bethlehem (Cambria) Fence, which it supplants.

Bethanized Fence is of cut-stay, hinge-joint construction. This is the type of farm fence that, the country over, has met with widest acceptance. When stock crowd against Bethanized Fence the hinge joint permits the stay wires to swing back into place as soon as pressure is removed, and without taking any permanent bend. The hinge-joint construction also facilitates erecting the fence on rolling or hilly ground, permitting a natural adjustment to

hillocks and hollows that seldom has to be supplemented by splicing. The extra long wraps of the stay wires are of the kind that don't pull out.

Full, deep tension curves, combined with a desirable amount of stiffness in the line wires, automatically adjust the tension when expansion or contraction is caused by changes in temperature. They keep Bethanized Fence tight, year after year, with seldom any need to restretch it, permit spans of maximum length where conditions are favorable.



Bethanized Fence is of hinge-joint, cut-stay construction

The springy tension curves permit stretching in long spans

FULL-COPPER-CONTENT STEEL

Bethanized Fence, while effectively safeguarded by its new type of zinc coating, has as a reserve defense against rust the inherent rust-resistance of the full-copper-content steel of which the wire is made. Disinterested tests have shown that copper-bearing

steel of the copper content that is used in making Bethanized Fence (0.20 to 0.30 per cent) has a life from 2 to 2½ times greater than that of ordinary steel when exposed to atmospheric corrosion.

WEIGHT OF COATING

The standard heavy coating on Regular Bethanized Fence is equal or superior to that of the heaviest standard-weight galvanized coatings used on farm fence.

For locations where fence is exposed to exceptionally severe corrosive action as, for example, along

railway rights-of-way where moisture combines with smoke and soot to form corrosive acids, Bethanized Fence with an extra-heavy or "Special" coating is recommended. Still heavier Bethanized coatings are available for installations where unusually long life is desired and corrosive conditions are extreme.

BETHANIZED FARM FENCE

FOR CATTLE, SHEEP AND HOGS




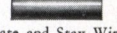
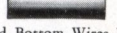
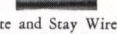
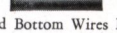
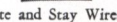
DISTANCE BETWEEN BARS INCHES	DESIGN NO. 1155	11 BARS	55 IN.
9	1047	10 BARS	47 IN.
8	939	9 BARS	39 IN.
7	832	8 BARS	32 IN.
6	726	7 BARS	26 IN.
5½			
5			
4½			
4			
3½			
3			

Made in Five Heights and Four Weights

Bethanized Fence, Specifications Nos. 9, 11, 12½ and 14½ Farm, is a most satisfactory general purpose farm fence, and is one of our best sellers. As indicated in the accompanying tables of specifications, this fence is supplied in five heights and four weights. It can be supplied in heights up to 55 inches in the three heavier weights, for turning cattle or horses, and the line wires are close enough together at the bottom to also turn hogs and sheep. It is supplied with stay wires either 6 in. or 12 in. apart.

SPECIFICATIONS NOS. 9 FARM, 11 FARM, 12½ FARM AND 14½ FARM

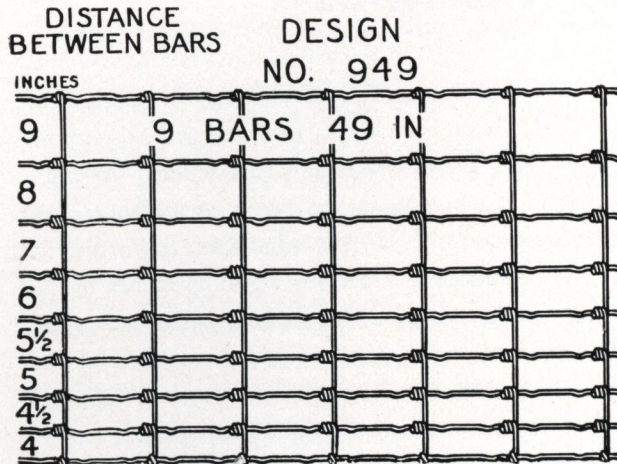
Furnished in 10-, 20-, and 40-Rod Rolls (10-Rod Rolls 25 cents extra per roll)

Specifi- cation	Wires	Design No.	No. of Hoz't. Wires	Height in In.	Approx. Wt. per Rod in Pounds	
					Stay Wires 12 In. Apart	Stay Wires 6 In. Apart
No. 9 Farm		1155	11	55	17.1	23.5
		1047	10	47	15.3	20.8
		939	9	39	13.5	18.2
		832	8	32	11.8	15.8
		726	7	26	10.1	13.3
No. 11 Farm		1155	11	55	11.8	15.8
		1047	10	47	10.6	14.0
		939	9	39	9.4	12.2
		832	8	32	8.3	10.7
		726	7	26	7.3	9.2
No. 12½ Farm		1155	11	55	8.2	10.8
		1047	10	47	7.3	9.5
		939	9	39	6.6	8.4
		832	8	32	5.9	7.4
		726	7	26	5.1	6.4
No. 14½ Farm		939	9	39	.....	5.6
		832	8	32	.....	4.9
		726	7	26	.....	4.3



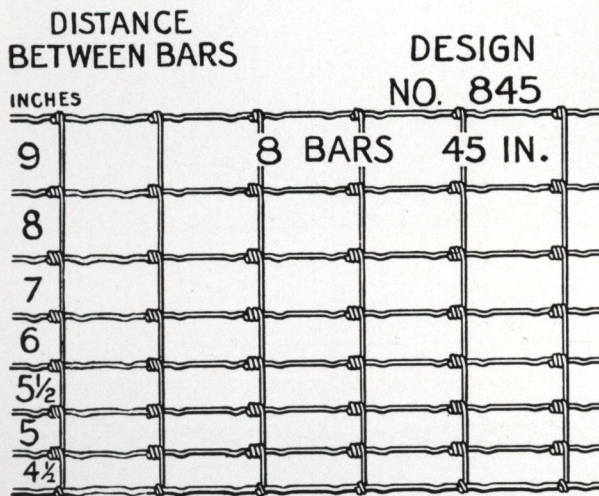
BETHANIZED FARM FENCE

FOR HORSES, CATTLE AND SHEEP



Made in One Height and Three Weights

The design of fence illustrated above is very good for turning animals such as horses, cattle and sheep. It is not recommended for hogs and smaller animals on account of the wide spacing between the line wires. The stay wires are spaced 12 in. apart. Made in one height and three weights.



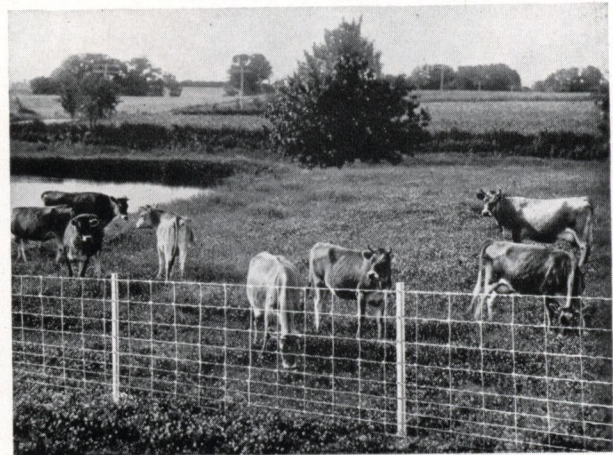
Made in One Height and Three Weights

In this design of fence the stay wires are 12 in. apart. The height may be easily increased by stretching one or two strands of smooth or barbed wire above the top wire of fence. This fence is made in one height and in three weights.

SPECIFICATIONS NOS. 9, 11 AND 12½ FARM, DESIGN 949

Furnished in 10-, 20-, and 40-Rod Rolls (10-Rod Rolls 25 cents extra per roll)

Speci- fica- tions	Wires	Design No.	No. of Hoz't. Wires	Height in In.	Approx. Wt. per Rod, Pounds Stay Wires 12 In. Apart
No. 9 Farm	Top and Bottom Wires No. 9	949	9	49	14.4
	Intermediate and Stay Wires No. 9				
No. 11 Farm	Top and Bottom Wires No. 9	949	9	49	9.9
	Intermediate and Stay Wires No. 11				
No. 12½ Farm	Top and Bottom Wires No. 10	949	9	49	7.0
	Intermediate and Stay Wires No. 12½				



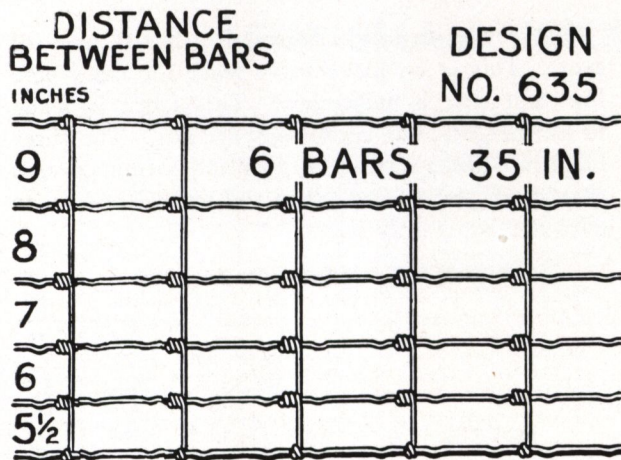
SPECIFICATIONS NOS. 9, 11 AND 12½ FARM, DESIGN 845

Furnished in 10-, 20-, and 40-Rod Rolls (10-Rod Rolls 25 cents extra per roll)

Speci- fica- tions	Wires	Design No.	No. of Hoz't. Wires	Height in In.	Approx. Wt. per Rod, Pounds Stay Wires 12 In. Apart
No. 9 Farm	Top and Bottom Wires No. 9	845	8	45	12.9
	Intermediate and Stay Wires No. 9				
No. 11 Farm	Top and Bottom Wires No. 9	845	8	45	9.0
	Intermediate and Stay Wires No. 11				
No. 12½ Farm	Top and Bottom Wires No. 10	845	8	45	6.3
	Intermediate and Stay Wires No. 12½				

BETHANIZED FARM FENCE

FOR HORSES, CATTLE AND SHEEP



Made in One Height and Three Weights

The stay wires, as illustrated above, are 12 in. apart. The height may be easily increased by stretching one or two strands of smooth or barbed wire above the top wire of fence. This fence can be had in one height and three weights.

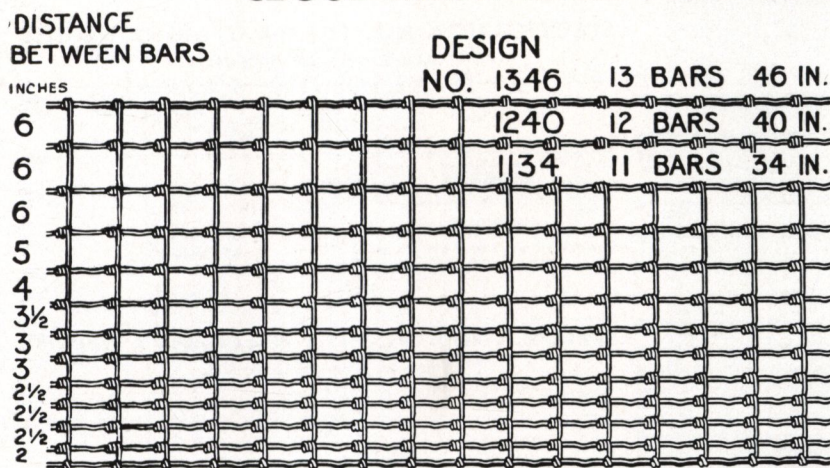
SPECIFICATIONS NOS. 9, 11 AND 12 1/2 FARM, DESIGN 635

Furnished in 10-, 20-, and 40-Rod Rolls (10-Rod Rolls 25 cents extra per roll)

Speci- fica- tions	Wires	Design No.	No. of Hoz't. Wires	Height in In.	Approx. Wt. per Rod, Pounds Stay Wires 12 In. Apart
No. 9 Farm	Top and Bottom Wires No. 9 Intermediate and Stay Wires No. 9	635	6	35	9.7
No. 11 Farm	Top and Bottom Wires No. 9 Intermediate and Stay Wires No. 11	635	6	35	7.0
No. 12 1/2 Farm	Top and Bottom Wires No. 10 Intermediate and Stay Wires No. 12 1/2	635	6	35	5.0



CLOSE MESH HOG AND CATTLE FENCE



Made in Three Heights and One Weight

In this specification, as illustrated at left, the stay wires are either 12 or 6 in. apart. This fence is used mostly in the Southern States for turning razor-back hogs. The bottom spacing is close enough to turn anything but the very smallest chickens. This fence is made in three heights, but in only one weight.

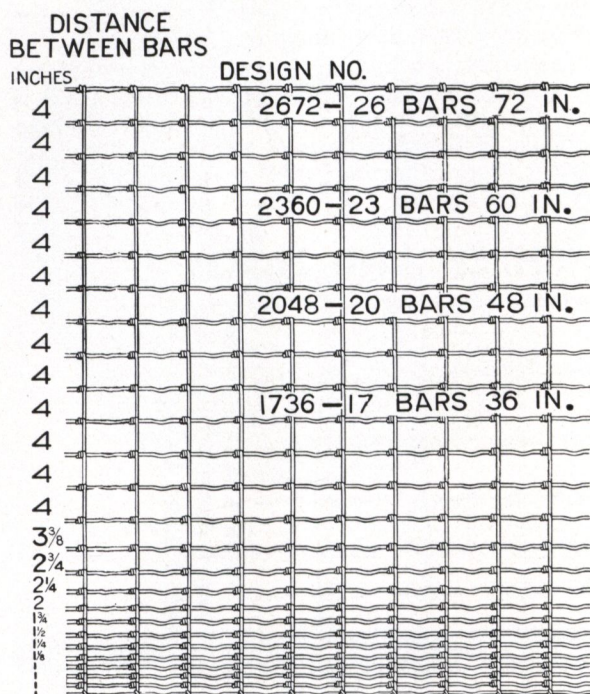
SPECIFICATION NO. 12 1/2 CM

Furnished in 10-, 20-, and 40-Rod Rolls (10-Rod Rolls 25 cents extra per roll)

Wires	Design No.	No. of Hoz't. Wires	Height in In.	Approx. Wt. per Rod, in Pounds	
				Stay Wires 12 In. Apart	Stay Wires 6 In. Apart
Top and Bottom Wires No. 10	1346	13	46	8.9	11.9
	1240	12	40	8.2	10.5
Intermediate and Stay Wires No. 12 1/2	1134	11	34	7.5	9.4

BETHANIZED CHICK FENCE

FOR SMALL CHICKENS AND POULTRY



Made in Four Heights and Three Weights

SPECIFICATIONS NOS. 14½ AND 15½ CHICK 6" BETWEEN STAYS

Furnished in 10- and 20-Rod Rolls

Specifi- cation	Wires	Design No.	No. of Hoz't. Wires	Height in In.	App'x. Wt. per Rod, Pounds Stay Wires 6 In. Apart
No. 14½ Chick	Top and Bottom Wires No. 11	2672	26	72	12.0
		2360	23	60	10.6
	Intermediate and Stay Wires No. 14½	2048	20	48	9.0
		1736	17	36	7.8
No. 15½ Chick	Top and Bottom Wires No. 12½	2672	26	72	9.5
		2360	23	60	8.3
	Intermediate and Stay Wires No. 15½	2048	20	48	7.1
		1736	17	36	5.9

SPECIFICATION NO. 17 CHICK

Furnished in 150-Foot Rolls

Specifi- cation	Wires	Design No.	No. of Hoz't. Wires	Height in In.	App'x. Lbs. per 150-Ft. Roll, Stay Wires 6 In. Apart
No. 17 Chick	Top and Bottom Wires No. 15½	2672	26	72	53.3
		2360	23	60	46.6
	Intermediate and Stay Wires No. 17	2048	20	48	39.8
		1736	17	36	33.0

Bethanized Chick Fence is made in four heights, varying from 36 to 72 in., with stay wires spaced 6 in. apart. It can be furnished in three weights. The 1-in. spacing between the lower line wires is to protect small chickens by confining them in safe enclosures and for excluding destructive animals. No top or bottom boards are necessary. This fence meets the needs of the poultry raiser economically. While the cost is relatively low the strong wire of true copper-bearing steel provides the necessary strength, and the Bethanized, uniformly heavy, coat of zinc insures durability. All joints are of the hinge type, tightly wrapped around the line wires.



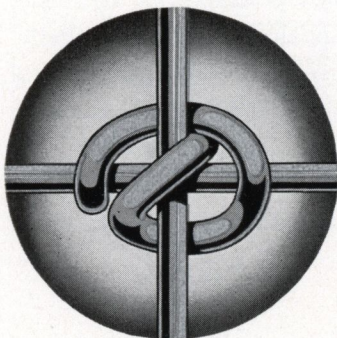
BETHANIZED STIFF-STAY FENCE

When for any reason conditions call for fence of the stiff-stay type, the same superior Bethanized protection and basic fence values afforded by Bethanized Fence are available in Bethanized Stiff-Stay Fence. The staple-lock construction employed in Bethanized Stiff-Stay Fence, while securely clamping the stay wires to the line wires, allows sufficient play so that when erected on rolling or hilly land, the fence readily adjusts itself and requires the minimum amount of splicing.

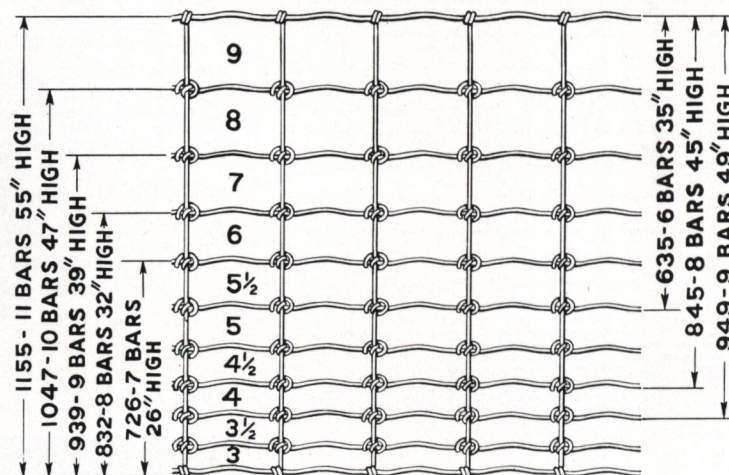
Since the stay wires tend to support the line wires, economy in the use of posts frequently can be effected in erecting Bethanized Stiff-Stay Fence. Likewise it is an excellent type of construction for temporary fences, as in hogging down.

The accompanying tables and diagram indicate the ample selection of styles in which this fence is available. It is made in eight heights and three weights. The base wire is of the same full copper-content, copper-bearing steel that is used in all Bethanized Fence.

FOR CATTLE, SHEEP AND HOGS









Made in Eight Heights and Three Weights

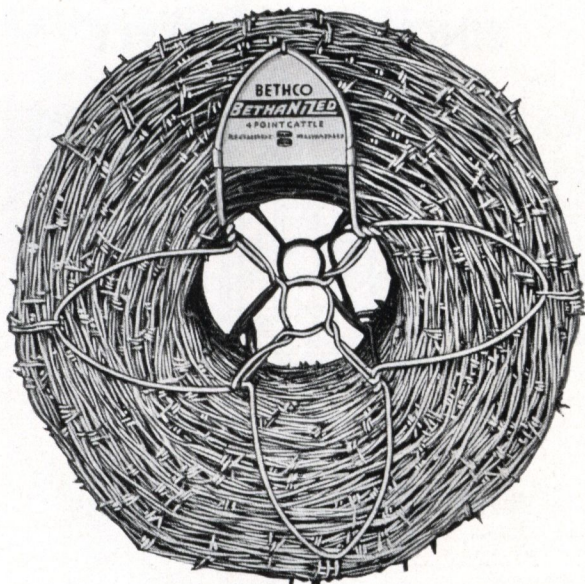


STIFF-STAY SPECIFICATIONS NOS. 9, 11 AND 12½ FARM

Furnished in 10-, 20-, and 40-Rod Rolls (10-Rod Rolls 25 cents extra per roll)

Specification	Wires	Design No.	No. of Hoz't. Wires	Height in In.	Approx. Wt. per Rod in Pounds	
					Stay Wires 12 In. Apart	Stay Wires 6 In. Apart
No. 9 Farm	 Top and Bottom Wires No. 9	1155	11	55	17.1	23.5
		1047	10	47	15.3	20.8
		939	9	39	13.5	18.2
		832	8	32	11.8	15.8
		726	7	26	10.1	13.3
	 Intermediate and Stay Wires No. 9	949	9	49	14.4	
		845	8	45	12.9	
		635	6	35	9.7	
No. 11 Farm	 Top and Bottom Wires No. 9	1155	11	55	11.8	15.8
		1047	10	47	10.6	14.0
		939	9	39	9.4	12.2
		832	8	32	8.3	10.7
		726	7	26	7.3	9.2
	 Intermediate and Stay Wires No. 11	949	9	49	9.9	
		845	8	45	9.0	
		635	6	35	7.0	
No. 12½ Farm	 Top and Bottom Wires No. 10	1155	11	55	8.2	10.8
		1047	10	47	7.3	9.5
		939	9	39	6.6	8.4
		832	8	32	5.9	7.4
		726	7	26	5.1	6.4
	 Intermediate and Stay Wires No. 12½	949	9	49	7.0	
		845	8	45	6.3	
		635	6	35	5.0	

BETHANIZED BARBED WIRE



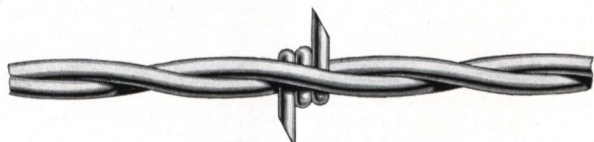
Bethanized Barbed Wire makes more effective, longer lasting fence. The heavier, purer, more uniform Bethanized coating revolutionizes barbed wire value just as it does fence value.

Bethanized Barbed Wire is made in a sufficient variety of styles and specifications to meet every farm-fence requirement to which barbed wire is adapted. All styles are furnished with the barbs spaced for either cattle or hogs. On all 2-point styles cattle barbs are 5 in. apart; hog barbs, 3 in. On 4-point styles cattle barbs are 6 in. apart; hog barbs, 4 in. The strands are uniformly twisted, the barbs sharp, tightly wrapped and equally spaced.

All standard styles are furnished, on 100-lb. reels, or 80-rod spools. Smaller reels can be supplied at proportionate prices.

Wire put up on 100-lb. reels is made of No. 12-gauge strands. Wire put up on 80-rod spools (except 2-point Cambria Special) is made of No. 12½ gauge strands. Two-point Cambria Special Wire having No. 14-gauge strands is put up on 80-rod spools only.

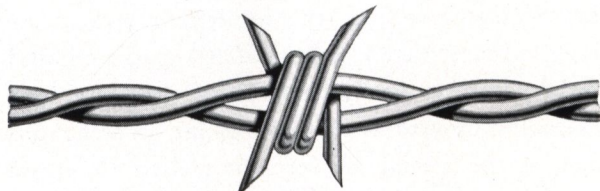
Space between barbs is as follows: Two-Point Cattle barbs, 5 inches. Four-Point Cattle barbs, 6 inches. Two-Point Hog barbs, 3 inches. Four-Point Hog barbs, 4 inches.



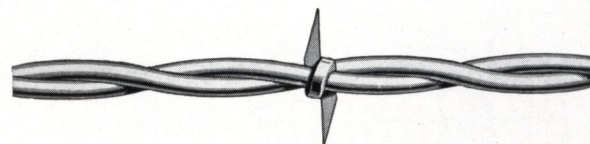
BETHCO TWO-POINT—Round barbs



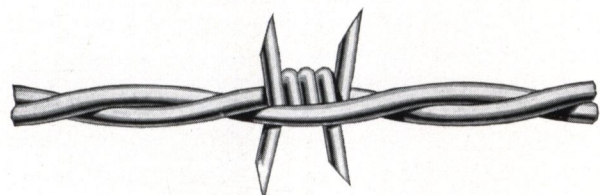
CONEMAUGH FOUR-POINT—Half-round barbs, short and sharp



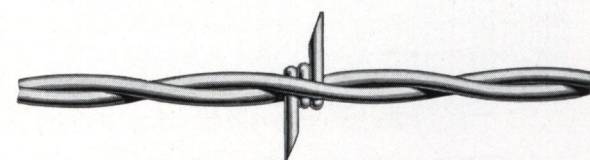
INVINCIBLE—Round barbs



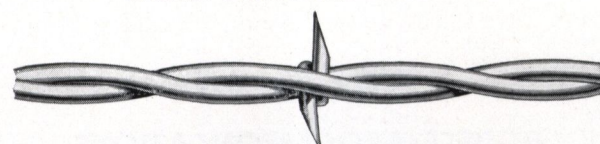
CAMBRIA PERFECT—Two-point flat barbs



BETHCO FOUR-POINT—Round barbs



CAMBRIA SPECIAL—Two-point round barbs



CONEMAUGH TWO-POINT—Half-round barbs, short and sharp



CACTUS—Round barbs

BETHLEHEM TWISTED BARBLESS WIRE



BETHANIZED—ANNEALED—PAINTED. Two-ply standard furnished in Nos. 11, 12, or 12½ gauge wire.

BETHANIZED LAWN FENCE

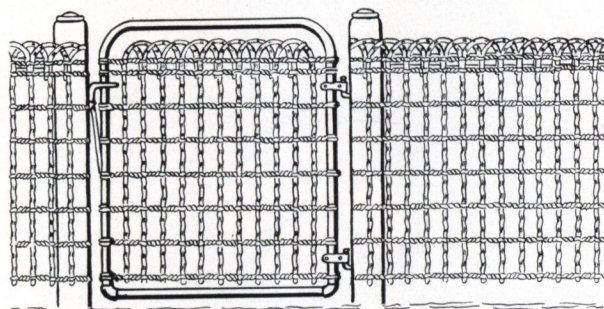
Due to its silvery lustre Bethanized Lawn Fence sets new standards in its smart appearance—and new standards, also, in coating weight and coating durability. Bethanizing now makes possible a heavily-coated lawn fence. The same properties of the Bethanized coating that add to farm fence life permit coatings just as heavy and superior on lawn fence. With Bethanized Lawn Fence frequent painting is unnecessary. It retains its brightness and attractive appearance for years.

DESCRIPTION OF FABRIC

This fabric is made of heavily-coated Bethanized Wire. The crimped uprights or pickets in Bethanized Lawn Fence of the single-arch design are 9½-gauge wire, and are spaced 3 in. apart.

The curved top of each picket is securely interlocked with the adjoining picket, forming the "double top." Twisted cable line wires are 12½-gauge, spaced 6 in. apart, except the two top cables, which are 2 in. apart.

SINGLE-ARCH STYLE



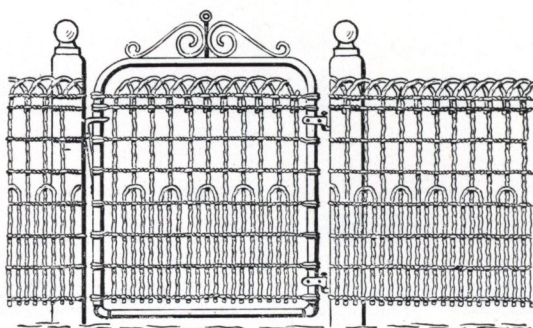
A neat attractive design that combines service and economy

SINGLE-ARCH SPECIFICATIONS

Ht. of fabric in In.....	30	36	42	48	54	60	66	72
Number of cables.....	6	7	8	9	10	11	12	13
Approx. Wt. per 100 Ft.....	97	110	125	143	158	173	190	208

Put up in 100-, 165-, 250- and 330-ft. Rolls

DOUBLE-ARCH STYLE



A very popular design that combines extra sturdiness in construction and a pleasing ornamental effect

DESCRIPTION OF FABRIC

The fabric in Bethanized Lawn Fence of double-arch design is made of heavily coated Bethanized Wire. The crimped uprights, or pickets, are 9½-gauge wire, spaced 3 in. in the upper section of the fence, and 1½ in. in the lower section. The curved top of each picket is tightly interwoven with ad-

joining pickets, forming the strong "double top." In the lower section, the full-length pickets are interwoven with an additional 9½-gauge crimped picket, starting at the bottom of the fence, and extending upward as shown, forming an arch, thus making the spacing between the pickets 1½ in. in the lower section. The double horizontal twisted wires, or cables, are 12½-gauge, spaced 6 in. apart, except the two top cables which are spaced 2 in. apart.

The extra pickets at the bottom of the fabric engage the lower cables as follows: 30-in., three lower cables; 36- and 42-in., four cables; 48- and 54-in., five cables; 60- and 66-in., six cables; 72-in., seven cables.

DOUBLE-ARCH SPECIFICATIONS

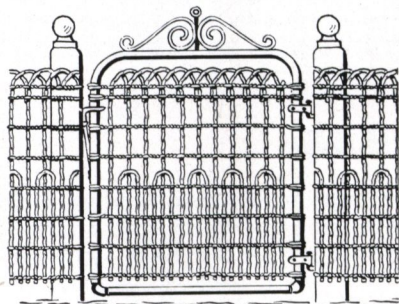
Ht. of fabric in In.....	30	36	42	48	54	60	66	72
Number of cables.....	6	7	8	9	10	11	12	13
Approx. Wt. per 100 Ft.....	125	145	160	187	210	226	244	256

Put up in 100-, 165-, 250- and 330-ft. Rolls

GATES FOR LAWN FENCE

ORNAMENTAL WALK GATES

The Ornamental Walk Gate that is provided for use with Bethanized Lawn Fence has a decorative scroll top that is both pleasing and dignified, and is neatly fitted with a Bethanized Lawn Fence filler of either single- or double-arch design. There are no sharp ends of wire projecting, and each web is a complete piece of fabric in itself, specially woven to size. Frames are made of high-grade standard pipe, 1½ in. outside diameter. All ornamental gates are equipped with scroll top, spring latch and wood-post fittings, unless otherwise ordered.



Frames and fittings are galvanized and can also be furnished green or black enameled.

All special sizes of Lawn Gates are charged at the list price of our next larger regular size gate.

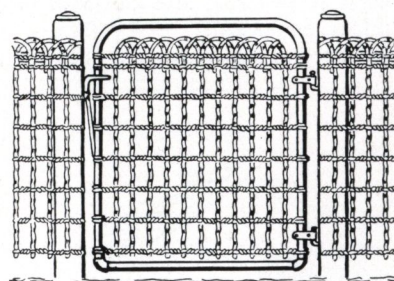
UTILITY WALK GATES

When a simple unadorned gate of sturdy construction is desired this Utility Walk Gate meets every requirement.

The fabric is made to fit the gate frame and Utility Walk gates are furnished with either single- or double-arch fabric to match the design of the fence that is used.

Frames are made of high-grade standard pipe, 1½ in. outside diameter.

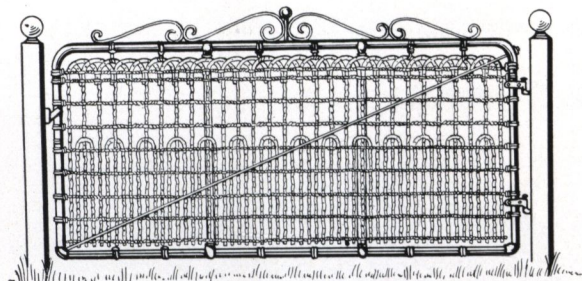
Gates are shipped complete with all necessary fittings, ready to hang on wood post.



NET WEIGHT PER GATE, ORNAMENTAL TOP

Width between Posts.....	3'-0"	3'-6"	4'-0"
36 in. high.....	21 lbs.	23 lbs.	24 lbs.
42 in. high.....	23 "	24 "	25 "
48 in. high.....	24 "	25 "	26 "

Utility gates weigh about one pound less



ORNAMENTAL SINGLE-DRIVE GATES

NET WEIGHT PER GATE

Width between Posts.....	8'-0"	10'-0"	12'-0"	14'-0"	16'-0"	18'-0"
36 in. high, Double Drive..	64 lbs.	71 lbs.	78 lbs.	86 lbs.	94 lbs.	108 lbs.
42 in. " " " " ..	68 "	75 "	84 "	91 "	99 "	113 "
48 in. " " " " ..	73 "	80 "	89 "	98 "	105 "	118 "
36 in. " Single Drive..	59 "	70 "	81 "	93 "	101 "	
42 in. " " " " ..	63 "	75 "	85 "	98 "	108 "	
48 in. " " " " ..	66 "	80 "	93 "	104 "	116 "	

Drive Gates — Trellis — Flower Bed Guard

ORNAMENTAL DOUBLE DRIVE GATES

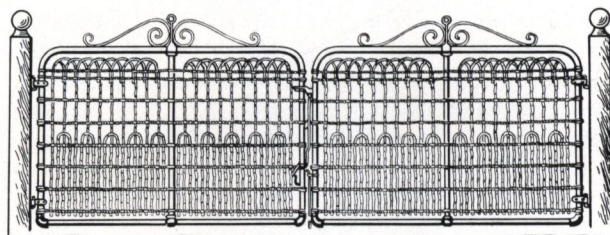
The fabric for Ornamental Double Drive Gates is woven especially to fit the gate frame and to match the fabric of either single- or double-arch design. There are no sharp ends projecting, and each web is a complete piece of fabric in itself. Frames are made of high-grade standard pipe, $1\frac{1}{8}$ in. outside diameter in the smallest sizes, and $1\frac{3}{8}$ in. outside diameter in the larger sizes. All ornamental gates are equipped with scroll top and spring latch. Gates 5 ft. and over in width are reinforced by strong brace wire to prevent sagging.

Gates and fittings are supplied galvanized unless otherwise ordered, and can also be furnished green or black enameled.

All special-size gates are charged at the list price

of the next larger regular-size gate. For net weights and sizes see page 21.

For gates higher than 48 in. add 10 per cent to delivered price for each 6 in. in height or any part thereof.



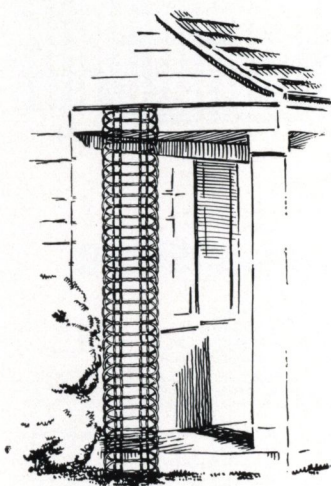
TRELLIS

Bethanized Trellis is far more convenient to use than wooden trellis and, if time and trouble in construction or erection are taken into account, is usually more economical, as well. With the aid of light-wood or iron-pipe supports, Bethanized Trellis lends itself to a variety of artistic effects, in forming arches for climbing plants over gates, bird baths and garden paths.

DIMENSIONS

Width.....	18"	24"	30"
Inches between Pickets.....	3"	3"	3"
Inches between Cables.....	8"	6½"	6½"
Weight per 100 feet.....	65 lbs.	72 lbs.	92 lbs.
Inches between End Cables.....	2½"	2½"	2½"
Number of Cables.....	4	5	6

Put up in 100-, 165-, 250- and 330-Ft. Rolls

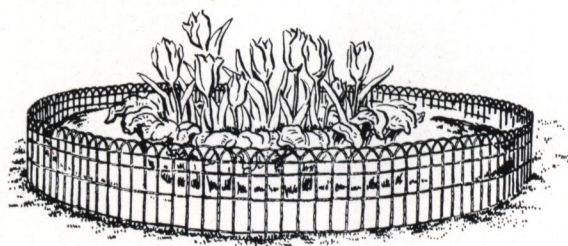


FLOWER BED GUARD

Bethanized Flower Bed Guard is furnished in two weights: regular and light-weight. The regular weight has $9\frac{1}{2}$ -gauge pickets tightly woven with doubled $12\frac{1}{2}$ -gauge twisted cable wires.

The light-weight style is made up with 11-gauge pickets tightly woven with doubled $12\frac{1}{2}$ -gauge twisted cable wires. The pickets in both designs are spaced 3 in. apart.

Either one makes a handsome and protective addition to the flower bed. Is especially effective in guarding your flowers against dogs and chickens. No posts or braces are required. The pickets project about $4\frac{1}{2}$ in. below the lowest cable. When these pickets are inserted in the ground and the ends of cables connected, the miniature fence stands firmly erect.



DIMENSIONS OF WOVEN FLOWER GUARD

Overall Height in inches.....	16"	22"
Number of Cables.....	3	4
Approximate Weight per 100 Ft.		
Regular.....	58 lbs.	70 lbs
Light Weight.....	45	56 "

Put up in 100-, 165-, 250- and 330-Ft. Rolls

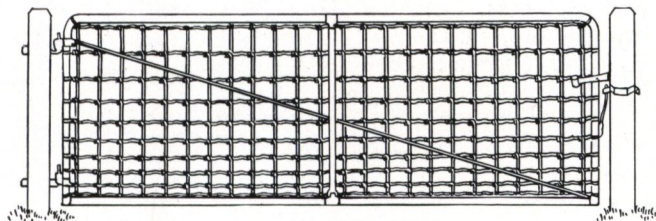
FARM AND POULTRY GATES

BETHLEHEM FARM GATES

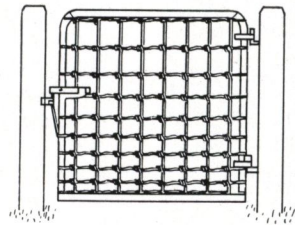
Gates of modern construction are the logical complement to modern fences. And gates at all points in fences where they will serve as a convenience in carrying on the farm work are time savers that soon pay for themselves many times over.

Bethlehem Farm Walk and Single Drive Gates are of the sturdy construction so essential in this type of service. The framework is of strong galvanized

tubing, solidly braced to afford added rigidity. The filler is of No. 9 Gauge Bethanized Farm Fence hinge-joint construction, with graduated line wires and the stay wires 6 in. apart. Walk gates are made in three widths and three heights, and drive gates in four widths and three heights. Fittings for wood posts are ordinarily furnished. Fittings for steel tubular or angle posts are furnished at additional cost.



Farm Single Drive Gate



Farm Walk Gate

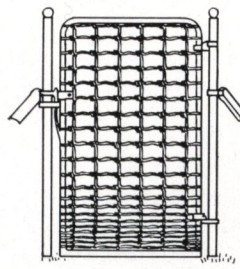
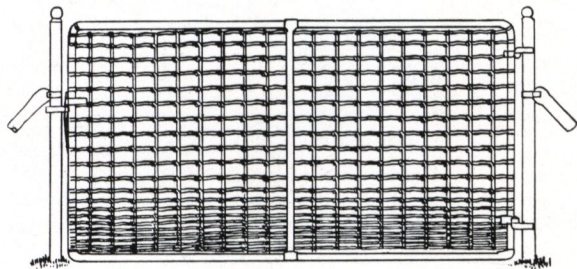
SPECIFICATIONS

Width of Opening		Height in Inches	Approx. Weight		Width of Opening		Height in Inches	Approx. Weight	
Walk Gate Feet	Single Drive Gate Feet		Walk Gate Pounds	Drive Gate Pounds	Walk Gate Feet	Drive Gate Feet		Walk Gate Pounds	Single Drive Gate Pounds
3	8	36	19	58	4	12	36	23	75
3	8	42	21	64	4	12	42	25	84
3	8	48	23	71	4	12	48	27	93
3½	10	36	21	68	....	14	36	....	81
3½	10	42	23	76	....	14	42	....	90
3½	10	48	25	84	....	14	48	....	99

BETHLEHEM POULTRY GATES

Bethlehem Poultry Gates are made of the same high quality galvanized tubing that is employed for Bethlehem Farm Gates. The filler is 14½-gauge

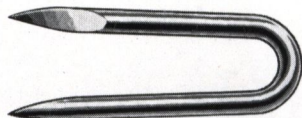
Bethanized Chick Fence. These gates are ordinarily furnished with fittings for wood posts. Fittings for steel posts are furnished at additional cost.



SPECIFICATIONS

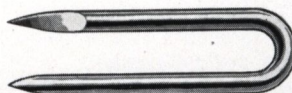
Width of Opening Feet	Height of Gate Inches	Approximate Weight Pounds
3½	48	22
3½	60	24
3½	72	26
10	48	58
10	60	66
10	72	70

STAPLES



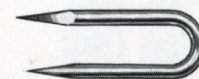
FENCE STAPLES
BRIGHT OR GALVANIZED

¾ to 2 inches in length
No. 9 Gauge



STEEL FENCE POST STAPLES
BRIGHT OR GALVANIZED

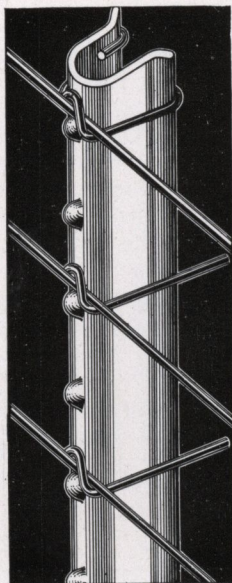
These staples are placed in holes, punched for the purpose, in steel fence posts and clinched on the opposite side. 1½ inch in length, ⅜ inch spread. No. 10 gauge.



POULTRY NETTING STAPLES
GALVANIZED

¾, ⅞, and 1 inch in
length. No. 14 Gauge

BETHLEHEM STEEL FENCE POSTS

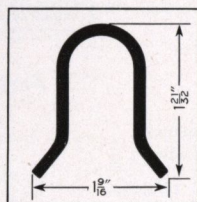


**PAINTED RED
OR
ALUMINUM**

OMEGA POSTS

The Bethlehem Studded Omega "U" Fence Post has exceptional strength. It is made of high-quality rail steel, rolled in a "U" or Omega section, with pressed-in studs which form a part of the arrangement for holding the fence.

Seven wire clips for fastening the fence are supplied with each post. These clips are easily applied and, in conjunction with the studs, provide a locking device that holds the fence securely in position, without movement either up or down, even under unusual stresses.

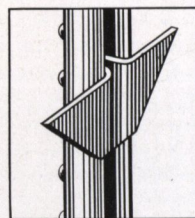


Cross section of
Omega Post

The clips are applied by hooking the bent leg around one wall of the post, passing the clip over the line wire, and then hammering the

other leg around other wall of the post.

Bethlehem Studded Omega "U" Fence Posts have heavy anchor plates, shaped to fit the inside of the "U", and securely riveted in place. These anchor plates provide an ample bearing for the post, assuring that it will remain erect.



Omega Anchor Plate

WEIGHTS AND LENGTHS

Length, Feet	Weight, Pounds	Length, Feet	Weight, Pounds
5	7.32	7 1/2	10.65
5 1/2	7.99	8	11.31
6	8.65	8 1/2	11.98
6 1/2	9.32	9	12.64
7	9.98		

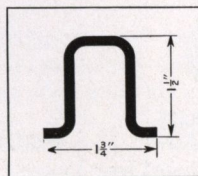
These weights are approximate

ERECTO POSTS—SELF-FASTENER

The Bethlehem Erecto Self-Fastener Post is an inexpensive post with exceptional strength for its weight. These features, together with ease of setting out and neat appearance, make it a very popular post for a wide variety of uses.

Made in a U-section with parallel sides and edges flared at right angles to the sides, the Erecto has double the pound-for-pound strength of certain other types of posts.

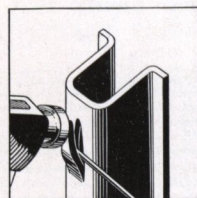
Erecto Posts can easily be driven into the ground with either a wooden mallet or a Bethlehem Steel Post Driver. Heavy anchor plates hold the post upright. To attach the fence it is necessary only to slip the wires behind the lugs and clamp them with a tap or two of a hammer.



Cross section of
Erecto Post

The type of fastening used makes the Erecto Post a very convenient one to use in temporary fence, as

for hogging-down corn. The fence can be simply hung on the lugs without closing them, and can then be lifted off whenever it is desired to remove it.



A tap with the hammer closes the self-fastener lug

The Erecto Post is painted green, an attractive color for lawn and garden fence use, and it can also be supplied painted red.

WEIGHTS AND LENGTHS

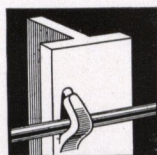
Length, Feet	Weight, Pounds	Length, Feet	Weight, Pounds
4	5.08	6 1/2	7.88
4 1/2	5.64	7	8.44
5	6.20	7 1/2	9.00
5 1/2	6.76	8	9.56
6	7.32		

These weights are approximate

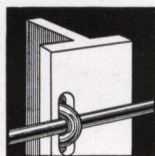


**PAINTED
GREEN OR
RED**

BETHLEHEM STEEL FENCE POSTS



Self-fastener type



Punched type

PUNCHED AND SELF-FASTENER POSTS

Bethlehem Punched and Self-Fastener Steel Fence Posts are made in both Angle and T-sections. Anchor plates firmly riveted to the posts provide bearing on the soil and hold the posts erect. They are made of high carbon rail steel, and are protected from rust by a heavy coat of red paint.

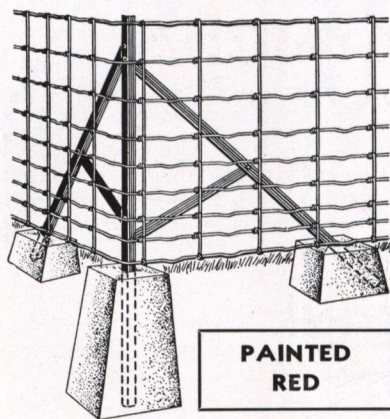
Bethlehem Punched Steel Posts have oval-shaped holes, $\frac{1}{2}$ by $\frac{3}{16}$ in., 2 in. apart, through which steel fence post staples can be driven and clinched, or the fence can be fastened with tie-wires.

Bethlehem Self-Fastener Steel Posts require no staples or wire fasteners. With these posts, just as with Erecto Posts, the fence can be quickly erected by placing the line wires on the lugs and merely giving the top of the lug a tap with a hammer to bend it down around the wire. The lugs are so formed as not to cut or injure the wire fence when attached.

WEIGHTS AND LENGTHS

Angle Line Posts $1\frac{1}{4} \times 1\frac{1}{4} \times \frac{5}{16}$ -Inch Angles		Tee Line Posts $1\frac{1}{2} \times 1\frac{1}{4} \times \frac{1}{8}$ -Inch Tee Bars	
Length, Feet	Weight, Pounds	Length, Feet	Weight, Pounds
5	6.20	5	6.92
$5\frac{1}{2}$	6.76	$5\frac{1}{2}$	7.55
6	7.32	6	8.17
$6\frac{1}{2}$	7.88	$6\frac{1}{2}$	8.80
7	8.44	7	9.42
$7\frac{1}{2}$	9.00	$7\frac{1}{2}$	10.05
8	9.56	8	10.67

END, GATE AND CORNER POSTS



Bethlehem End, Gate and Corner Posts are made in Angle section and also in Tubular form. The Bethlehem Tubular End or Corner Post goes well in appearance with Omega or Erecto Posts and is also an appropriate post for lawn fence. The Angle Section Post is of somewhat heavier construction, and is a desirable post where the maximum of strength is required.

DIMENSIONS AND WEIGHTS

ANGLE SECTION

End and Gate Posts $2 \times 2 \times \frac{1}{4}$ -In. Angles		Corner Posts $2 \times 2 \times \frac{1}{4}$ -In. Angles	
Length, In.	Weight, Lbs.	Length, In.	Weight, Lbs.
84	52.5	84	84
92	57	92	89
108	67	108	105

TUBULAR

Length, Feet	Tubular End Posts, Pounds	Tubular Corner Posts, Pounds
7	45	$64\frac{1}{2}$
8	51	73
9	$57\frac{1}{2}$	82

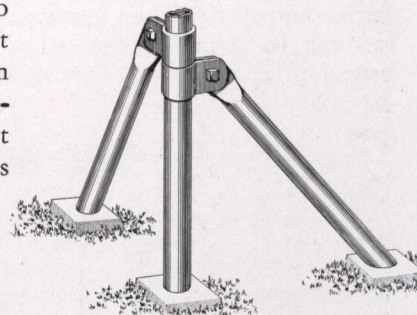
All weights in the foregoing tables are approximate

BETHLEHEM POST DRIVER

Posts may be driven quickly and accurately with the Bethlehem Post Driver. It consists of a $2\frac{1}{2}$ -in. steel tube and is 3 ft. long. One end contains a solid steel bar, 4 in. long, securely riveted in place. Total weight 18 $\frac{1}{2}$ lbs.



PAINTED
RED



PAINTED RED
OR
ALUMINUM

SILVER STAR BALE TIES

Silver Star Bale Ties have a special hard-oil finish that retards the tendency of the wire to rust. This finish will not come off, make fingers sticky, or the wire difficult to handle. Another advantage of Silver Star Bale Ties is the superior quality of the wire. It is made of a special grade of annealed steel.

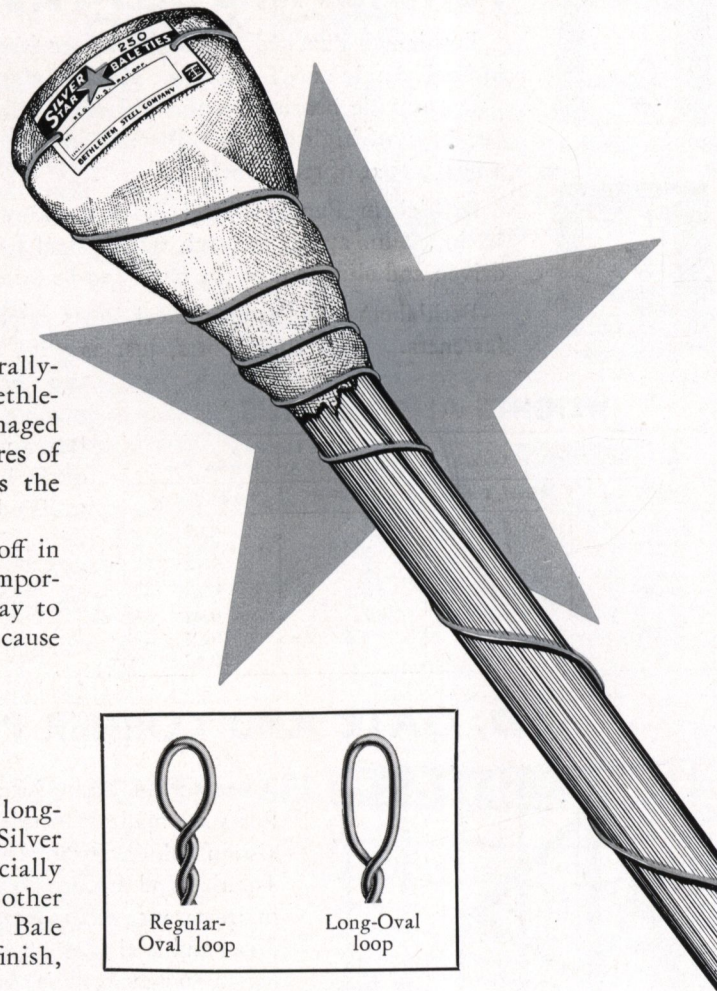
THE SILVER SPIRAL WRAP

Silver Star Bale Ties are shipped in spirally-wrapped bundles. The spiral wrap, which Bethlehem originated, insures that ties are never damaged from being caught by the ends of the band wires of other bundles. Every Silver Star Tie reaches the buyer in perfect condition.

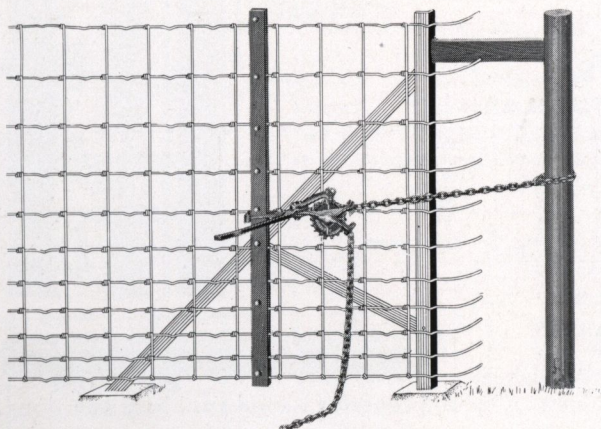
Furthermore, the Silver Spiral Wrap comes off in one long piece, saving time. But even more important, no short tag-ends of wire get into the hay to be eaten by farm animals, a far too common cause of death to livestock in the past.



Silver Star Bale Ties are made either with long-oval or regular-oval loop. And high strength Silver Star Hook Ties can be supplied that are especially adapted for use in baling rags, paper and for other special purposes. When specified Silver Star Bale Ties can be supplied with a dry, uncoiled finish, instead of the special hard-oil finish.



THE BETHLEHEM FENCE STRETCHER

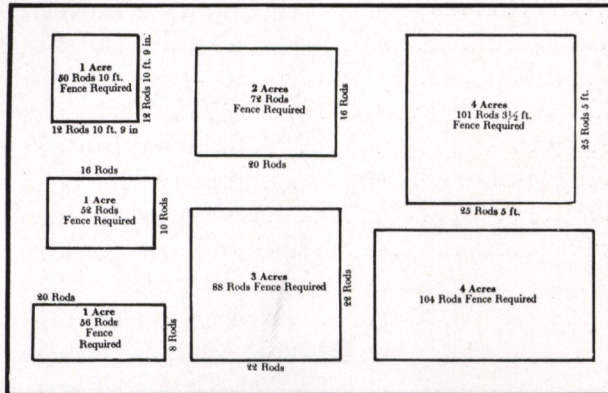


To get the best and longest service from wire fence it should be properly stretched during erection. The Bethlehem Fence Stretcher is made of heavy malleable iron and steel castings, and is very strong and durable. It is shipped complete with handle, 5-ft. hard-wood clamps with bolts, and 8½ ft. of B.B. proof-tested chain, all ready for use. Shipping weight, 45 lbs.

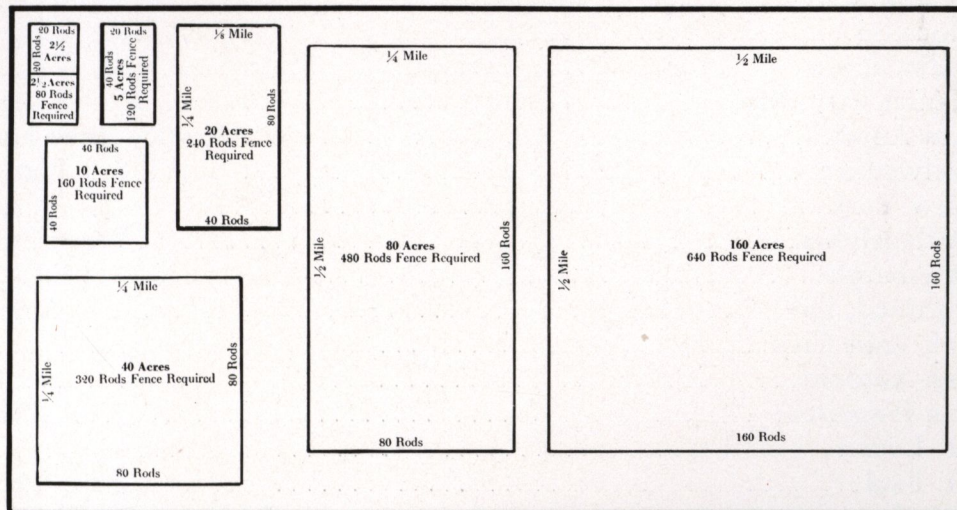
ERECTION AND CARE

PROPER ERECTION AND CARE YIELD THE GREATEST RETURNS IN FENCE SERVICE

While Bethanized Fence is built not only for use but even to withstand abuse, it is only natural that



The diagrams above and to the right will often be found useful in making rough computations of the amount of fence required when the customer knows the acreage and the general shape of a field that he desires to fence.



it will give the best and longest service when properly erected and cared for.

The customer who takes pride in his fences, erects them in the right way and keeps them at their best from the standpoint of both service and appearance, is any dealer's best fence advertising.

If a fence is hung on steel fence posts that adds just so much to its smart appearance. And regardless of the type of posts used, nothing is so important as proper setting of the posts in keeping woven fence at its best. If of steel, corner and end posts should be firmly embedded in concrete, as indicated in the description of these posts on page 25. If wooden corner and end posts are used, they should be 8 in. in diameter, securely braced and set 3 1/2 to 4 1/2 ft. in the ground, and before they are set cross



cleats of heavy planking should be firmly spiked on, both at the bottom and also near the surface, to securely anchor them and help to brace them against the tremendous strain that a woven fence places on corner and end posts.

The one way to insure the utmost service from any fence is to keep it tight. If stock have crowded against a fence or if posts have been heaved by the frost it is dollars and cents in any farmer's pocket to take whatever steps are necessary to get his fence tightened up.

The dealer who does all he can to encourage proper erection and proper care of the fence that he sells is doing a great deal to add to his list of steady, satisfied fence customers.

BETHLEHEM STEEL COMPANY

GENERAL OFFICES: BETHLEHEM, PA.



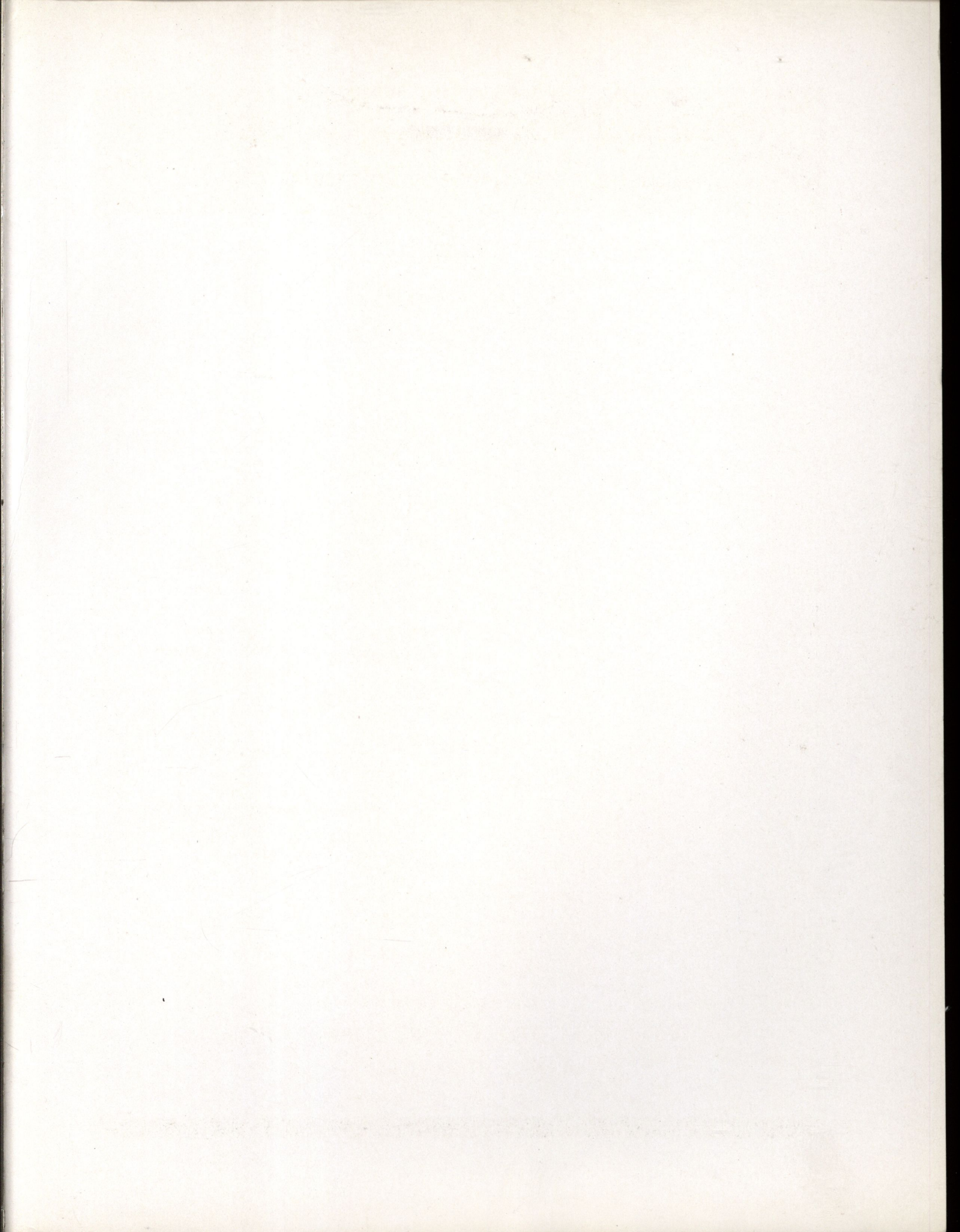
DISTRICT OFFICES

Albany	Standard Building
Atlanta	Candler Building
Baltimore	Mercantile Trust Building
Boston	75 Federal Street
Bridgeport, Conn.	Security Building
Buffalo	Hamburg Turnpike, Lackawanna, N. Y.
Chicago	Wrigley Building
Cincinnati	Union Trust Building
Cleveland	Terminal Tower
Dallas	Magnolia Building
Detroit	General Motors Building
Hartford, Conn.	125 Trumbull Street
Honolulu	Schuman Building
Houston	Petroleum Building
Indianapolis	Circle Tower
Kansas City, Mo.	Commerce Building
Los Angeles	Downey Road and E. Slausen Avenue
Milwaukee	Warner Theatre Building
New York	25 Broadway
Philadelphia	Broad Street Station Building
Pittsburgh	Oliver Building
Portland, Ore.	American Bank Building
Salt Lake City	Kearns Building
San Antonio	Smith-Young Tower
San Francisco	20th and Illinois Streets
St. Louis	Telephone Building
St. Paul	First National Bank Building
Seattle	28th Ave. S. W. and W. Andover Street
Syracuse	Union Building
Washington	American Security Building
Wilkes-Barre	Miners National Bank Building
York	Small Building

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